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The effect of dietary food patterns on adiposity and cardiometabolic risks in growing adolescents - A finding from a population-based study in Malaysia

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Dietary food pattern analysis has increasingly been used to capture the complexities of diet and the risk of chronic diseases in adults, but limited information is available among adolescents. The aim of this presentation was to investigate the effects of dietary food patterns on adiposity and metabolic risks among 445 adolescents aged 12 to 19 years in Malaysia. Dietary pattern analysis was determined using validated food frequency questionnaires. Body composition profiles were assessed by anthropometry and a dual-energy X-ray absorptiometry, respectively and cardiometabolic risk profiles were determined by blood biochemical analyses and blood pressure parameters. Using principal component analysis, three dietary patterns were identified, 'healthy' (characterized by a high proportion of fruits, vegetables and dairy products), 'western-based' (high in animal-derived and processed foods), and 'typical'. After adjusting for biological, dietary and lifestyle factors, multivariate analyses showed that high intake of western-based diet was associated with significantly higher BMI, abdominal fat, total fat mass (TFM) and percent body fat (%BF), and cardiometabolic risk parameters compared with lower intake of the same diet (at least; $p < 0.05$). In contrast, high intake of healthy diet pattern was associated with significantly lower BMI, TFM, %BF and cardiometabolic risks than those at lower healthy diet pattern. No such associations were found between the typical diet pattern and body composition profiles, except for blood pressure. Multivariate logistic regression analysis found that adolescents who had higher intake of western-based diet pattern had increased risk of being obese (OR: 7.6, $p < 0.001$), whereas adolescents eating a healthy diet had a lower risk of being obese (OR: 5.0, $p < 0.001$). The present findings suggest that high intake of 'healthy' diet and low intake of "western-based diet" were associated with significantly lower adiposity and obesity risk, which may exerts adverse effects on their health outcomes. Hence, encouragement of healthy dietary eating during childhood and adolescence should be emphasized to prevent adverse health effects in these critical years of growth.

Biography

Leng Huat Foo has completed his PhD from the University of Sydney, Australia. He is currently a senior lecturer at the Programme of Nutrition, School of Health Sciences, Universiti Sains Malaysia. His main research interests are focused on nutritional epidemiology, nutritional interventions, and nutritional and lifestyle assessments on chronic disease risk development throughout life spans. He has been published 60 peer-reviewed scientific journals and proceedings of the scientific meetings both in national and international levels and authors of three invited international textbook chapter writing. In addition, he has been an invited speaker at numerous national and international conferences.

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